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L5: Entry 34 of 38 File: USPT Mar 2, 1999

US-PAT-NO: 5878405
DOCUMENT-IDENTIFIER: US 5878405 A
**** See image for Certificate of Correction ****

TITLE: Pension planning and liquidity management system

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

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APPL-NO: 08/719800 [PALM]
DATE FILED: September 25, 1996

INT-CL-ISSUED: [06] G06 F 15/30

US-CL-ISSUED: 705/39; 705/35, 705/10
US-CL-CURRENT: 705/39; 705/10, 705/35

FIELD-OF-CLASSIFICATION-SEARCH: 705/4, 705/14, 705/30, 705/35-41, 707/104, 235/379, 235/380, 395/235, 379/91.01
See application file for complete search history.

PRIOR-ART-DISCLOSED:

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Search Selected Search ALL Clear

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ART-UNIT: 275

PRIMARY-EXAMINER: MacDonald; Allen R.

ASSISTANT-EXAMINER: Kazimi; Hani M.

ATTY-AGENT-FIRM: Browning Bushman

ABSTRACT:

A pension-based liquidity management data processing system that supports participant decision making and flexibility with respect to loans, contribution rates, and retirement spending. The system utilizes a simple index to communicate the adequacy of current or planned states in the participants separate pension account. Adequacy is determined relative to actuarial determined estimates which

may be adjusted by the participant. The system is provided with safeguard yet removes artificial barriers to pension-based liquidity, loans and retiree spending, allowing each participant the maximum flexibility in optimizing his personal retirement and financial plan. The system interfaces with unsecured credit cards as a disbursement and payment mechanism, thereby preventing pension assets from directly securing credit card charges. Central processing allows multiple credit cards to compete for any participant account. The system reduces average unsecured interest rate costs without liquidating long term retirement investments by securitizing the promissory note held in the participants separate. To the extent permissible under the applicable laws, the participant may electronically elect to classify a disbursement as a periodic rather than a loan consistent with periodic spending of retirement assets to support retirement living. The present invention substantially increases the liquidity of pension accounts while providing the participant with the knowledge to protect retirement security. Through improved liquidity and related planning tools, the system enables both employers through matching contributions and employees through elective contributions to increase net contribution rates, thereby enhancing retirement security.

37 Claims, 27 Drawing figures

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L5: Entry 34 of 38 File: USPT Mar 2, 1999

DOCUMENT-IDENTIFIER: US 5878405 A

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TITLE: Pension planning and liquidity management system

Abstract Text (1):
A pension-based liquidity management data processing system that supports participant decision making and flexibility with respect to loans, contribution rates, and retirement spending. The system utilizes a simple index to communicate the adequacy of current or planned states in the participants separate pension account. Adequacy is determined relative to actuarial determined estimates which may be adjusted by the participant. The system is provided with safeguard yet removes artificial barriers to pension-based liquidity, loans and retiree spending, allowing each participant the maximum flexibility in optimizing his personal retirement and financial plan. The system interfaces with unsecured credit cards as a disbursement and payment mechanism, thereby preventing pension assets from directly securing credit card charges. Central processing allows multiple credit cards to compete for any participant account. The system reduces average unsecured interest rate costs without liquidating long term retirement investments by securitizing the promissory note held in the participants separate. To the extent permissible under the applicable laws, the participant may electronically elect to classify a disbursement as a periodic rather than a loan consistent with periodic spending of retirement assets to support retirement living. The present invention substantially increases the liquidity of pension accounts while providing the participant with the knowledge to protect retirement security. Through improved liquidity and related planning tools, the system enables both employers through matching contributions and employees through elective contributions to increase net contribution rates, thereby enhancing retirement security.

Brief Summary Text (2):
This invention relates to the liquidity and related planning systems for pensionbased assets, and specifically to processes used for pension-based participant decision making and subsequent actions with respect to loans, retirement disbursements, and contribution rates.

Brief Summary Text (4):
Historically, retirement security was considered the responsibility of the employer or government. Defined benefit retirement plans were established providing employees a certain defined monthly benefit during retirement. Due to the number of variables involved and the extensive period of time covered before and during retirement, the cost of these plans became burdensome and costly to employers. As a result, employers have increasingly shifted since the advent of Internal Revenue Code Section 401(k) and similar retirement plans in 1981 to defined contribution plans. With the majority of defined contribution plans, it is the responsibility of the employee to electively save a portion of his or her annual salary. Some employers match or partially match the employee's contribution.

Brief Summary Text (8):
The present invention seeks to solve these systemic problems that have existed for over a decade and a half by designing a system that properly supports an individual participant in making the correct retirement decisions without the construction of

artificial liquidity barriers and restrictions imposed on all plan participants. There has been a long unaddressed need for a financial planning method and system that communicates with simplicity to the individual the effect of pension-based decisions on retirement security before, during, and after a liquidity or contribution decision is made.

Brief Summary Text (12):
(2) Individuals need increased mechanisms for pension-based liquidity to optimize individual financial plans and increase contribution rates. Restrictions on pension-based loans reduce contributions as limited resources must be saved outside of the pension plan account for expected requirements prior to retirement. However, with improved access or liquidity, contributions may be optimized maximizing the tax deferral captured each year. The optimizing of retirement contributions would increase retirement security for many individuals whose current retirement savings are inadequate.

Brief Summary Text (13):
(3) Individuals need timely and understandable retirement planning information to make effective retirement related decisions. Plan sponsors and financial planners remain concerned about the impact of pension-based loans on retirement security. The concern relates to uncertainty as to whether the individual is using retirement assets for current consumption. Further, the uncertainty is a function of multiple unknown variables to the parties involved, including the adequacy of retirement contributions relative to retirements needs and age, the adequacy of rates of return on investment choices, and other individual specific factors. Not only do the plan administrators lack this information, the individual making the liquidity decision lacks much of the necessary information to make an informed decision.

Brief Summary Text (14):
(4) Employers need to have confidence that individuals have access to timely and understandable retirement planning information to fulfill fiduciary duties and thus have confidence in eliminating artificial restrictions to pension-based liquidity. Employers have eliminated financial responsibility for adequate retirement benefits and therefore have eliminated the calculations previously performed. However, this has left the individual with the responsibility for adequate contributions and investment decisions without the ability to perform the necessary calculations to determine adequacy. This problem affects both contribution and liquidity decisions.

Brief Summary Text (15):
(5) Employers need increased pension-based liquidity to increase the pension matching contribution portion of total compensation. Both employers and individuals would be better served, through reduced costs and improved asset growth, by increasing matching contributions to be more closely aligned with actuarially determined requirements. However, employers have been limited by the liquidity needs of a portion of their employee base as matching rates must be applied consistently across the employee population. Increased liquidity mechanisms could solve the problem posed by the higher liquidity needs of a portion of the employee base that needs access in the short-term to a greater portion of their compensation.

Brief Summary Text (17):
(7) Individuals need to have access to relatively short-term pension-based loans without liquidating long term investments. Liquidating long-term pension assets potentially reduces retirement security. A traditional 401(k) loan liquidates long term investments in the plan and disburses the proceeds directly to the participant in exchange for a promissory note from the participant. Repayments of interest and principal on the promissory note are credited to the participant's retirement account. However, with the growth in retirement based borrowing (conservatively estimated at $16 billion in 1995), long term retirement assets have increasingly

been liquidated to fund participant's relatively short term credit needs. The liquidated assets have been replaced with relatively low yielding promissory notes. As a result, in 1995 when the S&P gained over 35%, those participants having borrowed from their assets received generally prime plus 1% (9.25%), an opportunity cost of over 20% in one year. Over the past 50 years the S&P has performed at an average of 11.8% per annum, substantially greater than prime plus 1%. Actuaries can readily demonstrate that this difference in expected return on retirement assets causes a substantial change in retirement security over time. All current pension-based loans have this effect on retirement security during a period when many do not have adequate retirement savings.

Brief Summary Text (18):
(8) Pension-based liquidity resulting from loans is currently costly, another restrictive barrier. Today, virtually all disbursements of plan loans are made by check. The leading practice in the retirement industry currently requires 12 days to process and disburse a plan loan, but only after the participant has prepared a written loan application.

Brief Summary Text (22):
The approach adopted in U.S. Pat. No. 5,206,803 initially may appear to provide a mechanism to reduce interest costs compared to average unsecured credit cards. This system, however, still allows and in fact encourages (1) long term investments to be liquidated to provide short term credit or liquid security for short term credit, (2) credit card charges to go directly against pension assets causing retirement borrowing to be as common as putting gas in one's car, and (3) actual borrowing costs to equal or exceed the average cost of an unsecured credit card. The latter point indicates that this system will fail to achieve its desired function. After considering the opportunity cost of moving assets from average returns of 11.8% to returns as low as 6% or below in a money market fund, as well as administration costs of 3 to 4% plus additional annual fees, the participant has paid at least 9 to 10% in costs for his use of his own funds. This is over and above the prime or 8.25% paid to his own retirement account, a total effective rate of 17.25 to 18.25% per annum for the use of those borrowed dollars. This range is equal or greater than average unsecured credit card debt, causing the system to fail its stated objective to provide a low cost line of secure credit. The system disclosed in the '803 patent secures credit cards directly against pension assets in the form of a line of credit. Interest costs, when applying historical data to this system, are not properly reduced. Further, trivial spending may be charged incessantly to the card with no safeguards other than regulatory limits. Further the increased liquidity is not safeguarded by personalized retirement planning information, causing this system to compound the risks affecting retirement security.

Brief Summary Text (23):
In addition, prior art systems make no attempt to address the most substantial opportunity cost related to their proposed solutions. Prior art systems have not addressed the implications of reducing retirement security by increasing pension-based liquidity without providing the necessary information to the individuals to make informed retirement planning decisions.

Brief Summary Text (24):
As a result, there remains a long standing unaddressed need for a pension liquidity system that, while delivering on the promise of reduced interest costs, does not lose sight of retirement security. Retirement security may be enhanced if the problems of liquidity limitations, liquidity costs, individual choice, individual retirement plan optimization, informed retirement decisions, loan portability, and asset disbursement costs are adequately addressed in a pension planning and liquidity management system.

Brief Summary Text (26):

In addition to overcoming the problems associated with prior art systems as described above, key objects of the system according to the present invention are: (1) to provide a system that monitors pension-based liquidity while enabling maximum pension-based liquidity allowed within regulatory limits, and that operates in conjunction with a new or existing pension plan; and (2) to provide a system that interfaces with any new or existing prior art credit card system to efficiently distribute disbursements, information, and collect payments while allowing a variety of card companies to compete within a given plan. Further objects and advantages of this system, each related to a corresponding problem with prior art systems as previously described, are as follows:

Brief Summary Text (28):
The system provides liquidity at rates substantially lower than the average unsecured credit card, thereby providing a significant savings to the participant. The majority of credit cards charge rates of about 17%. Moreover, the participant retains a huge advantage over conventional credit card debt while keeping 100% of retirement assets working in long-term investments in the plan. As a result, the present invention does not have a hidden opportunity cost by reducing retirement asset earnings and thus damaging retirement security. The interest savings resulting from the system are real and valid, increasing disposable income and the individual's capacity to save for retirement. Individuals may easily reduce the costs of personal short term credit from rates that frequently exceed 20%, and thereby more readily save for retirement with the increase in disposable income.

Brief Summary Text (30):
The system provides improved retirement savings by capturing greater amounts of tax deferred dollars each year. With increased liquidity under I.R.S. Section 401(k) loan programs, participants have the option of increasing contributions to the maximum allowed each year. If a $10,000 contribution is allowed each year but only $5,000 is utilized, the remainder is lost. The participant cannot contribute $15,000 the following year to make up for the unused pretax contribution. However, by contributing the $10,000 maximum and borrowing back $5,000, the participant can still capture the full tax deferral available each year. The increased liquidity utilizing this system allows individuals to optimize retirement planning even during years when limited saving dollars are available.

Brief Summary Text (32):
The system provides timely and understandable retirement planning information to make effective retirement related decisions. The adequacy of retirement savings and rates are converted into a simple index which is easy to understand. This information serves as a safeguard so that the individual understands the affect of any considered pension-based loan. Also, the individual will understand whether contribution rates with investment returns will provide an adequate retirement security. The prior art fails to provide integrated retirement planning information before, during, and after pension based liquidity decisions. Current pension-based loans are commonly provided to participants without the participant or the administrator understanding the specific impact of the loan on that individuals retirement.

Brief Summary Text (33):
Plan sponsors and financial planners are concerned about the impact of pension-based loans on retirement security. The concern relates to uncertainty as to whether the individual is using retirement assets for current consumption. Further, the uncertainty is a function of multiple variables unknown to the parties involved, including adequacy of retirement contributions relative to retirement needs, age, adequacy of rates of return on investment choices, and other individual specific factors. Not only do the plan administrators lack this information, the individual making the liquidity decision lacks much of the necessary information to make an informed decision.

Brief Summary Text (34):
Coupling retirement planning with liquidity decisions is an important safeguard in the system according to the present invention. The very participants that may be running the risk of using retirement assets for current consumption may have personalized retirement data delivered to them while interacting with the loan system. Moreover, an optimal plan is presented that includes optimal contribution rates. The system objective of enhancing retirement security may thus be achieved. The system also provides a retirement planning safeguard for loans, informs eligible employees not participating in the pension plan of the effects of participation in the plan, and provides tracking spending levels for retirees.

Brief Summary Text (38):
The system also provides increased pension-based liquidity that will allow employers to increase the pension matching contribution portion of total compensation. Both employers and individuals will be better served, through reduced costs and improved retirement asset growth, by varying matching contributions to be more closely aligned with actuarially determined requirements. Employers have previously been limited by the liquidity needs of a portion of their employee base as matching rates must be applied consistently across the employee population. Increased liquidity mechanisms may solve the problem posed by the higher liquidity needs of a portion of the employee base that require access in the short-term to a greater portion of their compensation. The bottom line is that an employer may provide an improved benefit to employees but at an overall reduced compensation cost.

Brief Summary Text (42):
To provide access to short-term pension-based loans without liquidating long term investments, the system leaves long term investments in the plan by securitizing the promissory note on behalf of the participant. The participant's full retirement assets remains invested in long term investments uninterrupted by short term borrowing and thus is expected to earn tax deferred returns, based on historical averages, typically greater than the rate on the promissory note. Liquidating long-term pension assets potentially reduces retirement security. With the growth in retirement based borrowing, long term retirement assets have increasingly been liquidated to fund participants relatively short term credit needs. The system of the present invention completely avoids or significantly minimizes liquidating long-term pension assets, thereby allowing the assets the opportunity to achieve high rates of return.

Brief Summary Text (43):
8. Efficient Liquidity Makes Greater Contributions Possible

Brief Summary Text (44):
The system provides increased liquidity by allowing an unlimited number of pension-based loans to be originated within regulatory constraints utilizing a combination of electronic means and co-branding with independent unsecured credit card companies. Costs relating to providing and servicing secured and unsecured credit will be reduced by utilizing the integrated processes of the pension-based loan system and the existing credit card systems. As a result, participants may cost effectively optimize their own individual financial circumstance as frequently as every month or more, if required. Utilizing the unsecured associated credit card allows pension-based loans to be immediately available when needed, thereby eliminating the costly paper-based loan system. This level of access will allow participants the freedom to make the greatest contributions possible to their pension plans.

Brief Summary Text (46):
The system also provides electronic access to retirement assets for ongoing retirement spending. Prior art systems have not integrated a pre-retirement liquidity system with a post retirement liquidity system with safeguards and

convenient low cost functionality. Retirement spending, the purpose of the pension account, will be serviced by the present invention without inefficient check based transfers and other disbursement accounts. The present system will thus allow retirees to buy groceries, for example, using the associated credit card, and will clear such purchases periodically against their retirement account.

Brief Summary Text (50):
Unfortunately, the same barriers constructed to cause borrowing of plan assets to be impossible, inconvenient and/or costly cause participation levels in both dollars and numbers of participants to be reduced. When a substantial portion of retirement assets are funded electively by the participant, providing convenient cost effective access to a portion of plan assets at any time and with any frequency empowers the participant to increase contributions. It is widely recognized that savings rates climb significantly when plan loans are offered. The present system takes a common unsecured credit card and converts it into one of the most powerful retirement tools available to the average employee. Retirement security will thus be enhanced by an increase in contributions due to improved liquidity.

Brief Summary Text (52):
It is a further object of the present invention to provide a method of originating an unlimited number of pension-based loans per participant without liquidating retirement assets from long term high return investments through the creation, securitization, and sale of plan held promissory notes, while further avoiding establishing a line of credit secured directly against pension assets that causes retirement assets to be liquidated and placed in low yield investments.

Brief Summary Text (56):
In accordance with the various features of the present invention, the interest charged on the proceeds derived from the securitized promissory notes is paid to the loan administrator and securitizer of said notes. The interest need not be paid to the pension account and the original pension assets remain intact and earn the rate of return applicable to those assets.

Detailed Description Text (2):
The system of the present invention accesses traditional pension plan management vehicles to securitize an unlimited number of promissory notes created between the pension plan participant's separate account and the participant, and thereby allows participants to obtain short term borrowings from their pension plan while leaving the pension assets fully invested in long term assets. The distribution of the proceeds and the repayment of the proceeds and interest are managed through an unsecured credit card account that is associated with the plan through a central clearinghouse and loan management system ("CLMS"). However, distributions may be directed to any number of participant directed accounts that are valid accounts held in the participant's name. The increased accessibility of plan assets will increase the utility of plans as saving vehicles. Inherent risks to retirement security associated with increased accessibility are mitigated through timely and understandable financial planning information provided to the participant prior, during, and after obtaining a plan loan. The system of the present invention will complete the transition of responsibility to the individual saver and provide a flexible retirement planning and monitoring system that will allow each participant to continually monitor and optimize his own customized retirement plan and financial plan.

Detailed Description Text (6):
Referring now to FIG. 1, a flow diagram is presented including a plan recordkeeper 50 and a trust 55 that holds plan assets. The recordkeeper 50 receives periodic data 40 from the employer, represented by block 20, regarding contributions 30 remitted to the pension plan trust and other relevant data regarding the pension plan and the participant. The recordkeeper 50 thus maintains a record of the amount

to be credited to each separate participant account. The pension plan trust 55 also receives contributions 30 from the employer which includes either employer non-elective or employee elective contributions, as well as income on investments represented by block 60. The trust 55 distributes proceeds at the direction of the recordkeeper 50 or other authorized fiduciary. Regardless of the source of contributions to the separate pension account, total assets in a plan are periodically valued at market value MV. In the preferred embodiment, the MV is determined by the recordkeeper on a daily basis, however, any suitable periodic valuation, for example four times per day, twice per week, weekly, bi-weekly, etc., may be done without departing from the scope and spirit of the present invention. All of the above activities are similar to practices currently in place.

Detailed Description Text (8):
The participant 150 has the right to borrow at any point in time (the effective date of any such loan origination referred to as the Measurement Date (MD)) under various regulatory provisions up to 50% of the MV and up to a maximum of $50,000 ("LIMITS"). The participant may continue to borrow repeatedly to the extent allowed under the loan guidelines in the specific sponsor pension plan as long as the total of all loans outstanding do not exceed the LIMITS and does not exceed the highest loan balance reached in the 12 months prior to the MD. In effect, the participant, under and within the regulations, always has a de facto line of credit being able to borrow his own funds at will subject to any restrictions imposed under specific pension plan loan guidelines. This has been a common and accepted practice in the industry since the passage of the related regulations and is also similar to activity that occurred in prior systems.

Detailed Description Text (9):
Securitization and Sale of Promissory Note

Detailed Description Text (10):
The system of the present invention allows a participant to create an unlimited number of promissory notes in a plan trust (subject to the regulations discussed above). Unlike the current practice of liquidating plan investments in the amount of the promissory note and distributing the proceeds of the liquidated investments to the participant, the promissory note itself, as an asset of the plan, is placed into a subtrust (ST) of the plan at block 100, and is securitized. The security is sold to a Loan Fund (LF) at block 110, and represents the promissory note and the right of the promissory note to call for other plan assets to be liquidated and disbursed in exchange for the promissory note. The cash received from the loan fund in exchange for the securitized promissory note is distributed to the participant's associated unsecured credit card account ("CARD") at block 155, or other vendor account ("VENDOR") at block 165, as specified by the participant.

Detailed Description Text (13):
The group of programs, hardware, and other related peripherals described in block 80 have been designed in tandem to efficiently serve under a bundled approach the participant's plurality of retirement disbursement functions, including real-time on-line financial planning process monitoring. The programs have been designed to operate on the same platform although legally comprising separate entities and ownership. Security software and continuous auditing provide the necessary underpinnings of the internal control structure.

Detailed Description Text (14):
The request(s) from the participant for the securitized promissory note loan (SPNL) is controlled through a centralized loan management system (CLMS) 90 that provides the central control over the application 70 for the loan, issuance of the requested CARD 155 line of credit, origination of the loan amounts, distribution of loan amounts, and servicing of loan balances including sourcing loan payments from the CARD. The participant completes an enrollment application 70 that requests simultaneously that a SPNL account be established and that a CARD 155 be issued

from one of multiple CARD companies 160. The enrollment form captures the participants signature supporting both the revolving CARD agreement and the current SPNL request and future electronic SPNL requests. The future electronic SPNL requests will be transmitted by any conventional means, such as, but not limited to, a personnel computer, modem, the internet, telephone, or other electronic device (or through customer service in conjunction with any of the other devices) using a selected PIN number to verify identity and maintain security. Additionally, electronic disbursements from the SPNL process can only be made to the CARD or VENDOR account, blocks 155 and 165, respectively, established in the name of the participant, thereby adding another layer of security to the disbursement process.

Detailed Description Text (15):
The CLMS will create an electronic promissory note ("NOTE") in an amount comprising the amount requested by the participant plus fees, including loan origination fees, and will transfer this promissory note to the sub-trust 100. The CLMS 90 manages the status of each participants various SPNL's ensuring that all such notes are correctly amortized and serviced. The CLMS sums the equal installments required under regulations for each SPNL and determines the total minimum payment required from the participant each month. Unlike current practice where repayments typically are posted to the plan sponsor's payroll system and then deducted from gross pay, the system of the present invention in the preferred embodiment posts all required minimum payments to the CARD 155, and collects a net wire disbursement from the CARD company to the LF 110. The CLMS posts the payment to the CLMS database, the ST database, and the LF database. Further, the CLMS directs the wired cash funds to the applicable LF. To the extent the interest spread between the interest rate charged by the LF and the interest rate charged to the participant by the CLMS is not collected in advance through origination fees, a portion of the interest collected will be retained by the CLMS to cover administrative expenses.

Detailed Description Text (17):
The ST is a legally enforceable trust established upon the adoption of the loan program to serve the participant's loan requests and is considered part of the pension plan. The ST is a third party directed trustee accepting specific written duties and responsibilities to execute transactions pursuant to a secure database and a preestablished set of programs. The secure database and set of programs establish, maintain, and update data files representing a plurality of ST accounts, one for each sponsor pension plan, and a plurality of separate participant accounts within each ST account. The CLMS transfers the NOTE to the applicable ST account with instructions from the participant to (1) securitize and sell the note in one of a plurality of LFs' indicated by block 120, and (2) remit the cash proceeds to a CARD account or VENDOR accounts at blocks 155 and 165, respectively. The ST places the NOTE in the separate account of the participant and creates an electronic security representing the note ("SECURITY") and transfers the SECURITY to the directed LF, block 110. The LF accepts the SECURITY as one of a pool of eligible receivables and accepts the STs' instructions regarding disbursement of funds. The cash is disbursed net within a reasonable administrative period, e.g., at the end of each day or week, depending on processing volumes, to the CARD or VENDOR company, blocks 155 and 165, respectively, with the required detail information to allow each loan disbursement to be credited to the correct account.

Detailed Description Text (19):
The participant, indicated by block 150, uses the CARD 155 for any merchant 170 that accepts the given card brand. The processing of the credit transaction through the card network from the merchant 170 to the merchant bank 175, and the clearing of the charge 180 to the issuing bank or to the CARD 155, represents the traditional credit card process currently in effect as industry standard for VISA or MasterCard, although the linkage to proprietary networks such as Discovery or American Express is equally applicable. It is to be understood by those skilled in the art that any type of payment card may be used in the payment system without departing from the scope and spirit of the invention. The electronic payment

process, before association with the blocks 70 through 120, is also similar to existing technology and is common industry practice. The system of the present invention includes the new use of the unsecured credit electronic payment process to pre-disburse pension disbursements, combining the unsecured electronic payment processing system with pension-based accounts for the first time. Further, the CLMS allows any card from any vendor to be linked to any participant in any pension plan which offers a level of protection to the participant through competition between card vendors. Additionally, the linkage provides the employer and participant with an important financial planning tool to, through improved liquidity, increase confidence to increase contributions to the pension plan as well as to decrease interest costs on existing debt without liquidating plan investments. Upon payment of principle and interest in full to the LF, the SECURITY is returned to the ST who in turn places the NOTE in a repurchased history file.

Detailed Description Text (24):
On the input side, the CPU is in communication via modem 210 with the pension plan administrator or recordkeeper 230, the employer 220, the trustee 240, and the sub-trustee 250. A preferred embodiment reduces transfers of data with the employer to zero with records updated through communication predominantly with the plan recordkeeper 230. However, alternative embodiments allow for direct communication with the employer. Likewise, the communication with the trustee is maintained at a low level, predominantly for retirement spending disbursements, with trustee services predominantly provided by the sub-trustee ST for loan related transactions. A preferred embodiment utilizes modem devices connected to the internet with data encrypted for security, utilizing encryption techniques the same or similar to the SET standard recently adopted by Visa and MasterCard for credit card transactions. Additional input is provided by the credit card company 300 regarding minimum payments and the unsecured credit line status through a modem 290. When modems are referred to, it is to be understood by those skilled in the art that any type of communications device may be used in the liquidity system, including but not limited to floppy diskettes, cartridges, mail, and nine track tape reel, without departing from the scope and spirit of the invention. An alternative embodiment would include a terminal directly linked to the CPU over a LAN or WAN network that eliminates the requirement for a modem and/or encryption.

Detailed Description Text (25):
The dominant form of input to the liquidity management system is the interaction and direction from the participant 260. The participant uses an interface device 270 and a modem 280 to provide both input and receive output from the CPU 200. When interface devices are referred to, it is to be understood by those skilled in the art that any type of communications device may be used in the liquidity system including but not limited to telephone, interactive voice response systems, internet, interactive television, personal computer, and/or ATM, without departing from the scope and spirit of the invention.

Detailed Description Text (26):
The participant directs the CPU to determine authorized loan amounts and originate loans. Further, the participant prior, during, or after the loan establishment process interacts with the Retirement Planning Control and Monitoring software 330 to display the effect of retirement based borrowings on retirement security at output and reporting block 340. The provision of this timely feedback to effect the participants decision is an important feature of the liquidity management system. Historically, timely information has not been readily available regarding retirement security during the pension based liquidity decision making process. Although participants have been struggling with such decisions over the last 15 years, a problem has remained unaddressed. Further, the system monitoring of retirement security continues after a liquidity decision has been made and executed. Among numerous reporting capabilities, the system continues to generate retirement planning reports 430 that will periodically encourage the participant to increase contributions and modify liquidity behavior.

Detailed Description Text (27):
After the participant has had the opportunity to incorporate the projected retirement security index into his liquidity decision, the CPU obtains various stored data used to originate loans and/or make retirement disbursements. The plan master file 350, loan limit control file 360, and eligible participants file 370, are all used to establish an accounts and vendors file 380. The CPU obtains data periodically, daily, weekly and/or monthly, from the plan administrator/recordkeeper 230 and updates the appropriate file accordingly. In an alternative embodiment, the CPU contacts the plan administrators database via modem during a loan request and obtains the most recently available vested account balance.

Detailed Description Text (32):
Referring now to FIG. 3, the system main menu is depicted in block diagram format providing an overview of the systems functionality. The Main Menu is the main system entry point for participants at block 525 and for internal personnel at block 575. Additionally, upon completion of processing, most programs in the CLMS return to the Main Menu pending further user instructions. The participants may be using any interface device, such as but not limited to telephone and personal computer. The participant may directly access the Retirement Planner 510 to determine current or planned levels of retirement security. Additionally, Loan Modeling at block 515 may be performed to determine estimated minimum payments for planned loan amounts, terms, and interest rates. The customer may request a Loan Application at block 520, or complete an on-line form. Password setting at block 525 allows a participant to establish a password and/or personal identification number (PIN) to enable future electronic transactions. New Vendor Setup at block 530 allows the participant to change, add, or delete vendors established as approved payees for electronic disbursements. Account Inquiry at blocks 535 through 560 allows a full range of participant queries regarding the status of transactions that have occurred with respect to his account, including but not limited to loan balance, required minimum payments and past due amounts, payment history, interest rates, and other fees charged to his account. Once a liquidity account has been established, new loan requests may be electronically initiated at block 565 in conjunction with the PIN. Conversely, also in conjunction with the PIN, additional repayments may be electronically initiated at block 570 to repay existing pension plan loan balances in the liquidity account.

Detailed Description Text (33):
The Internal Menu 575 provides access to CLMS personnel for typically internal batch processes. Quarterly and annual processes 580 include printing of quarterly retirement plan statements 585, where loan balances and performance relative to planning objectives are updated. Plan audit reports 590 are prepared to satisfy reporting requirements for each plan's annual financial statements. Audit reports 595 prepare schedules and samples in support of the requirements designed by the CLMS' external auditors to satisfy the requirements under SAS #70. Statistics 600 track loan and contribution levels by participant and by plan to monitor the effectiveness of retirement planning education provided to participants. Application Processing 605 allows the input of applications data for the establishment of liquidity accounts and the creation of related pension-based loans, if any, and includes the sub processes of issuance, authorization, and origination. Card Activation block 606 completes the issuance process by receiving data from the card company and storing such data in association with the pension-based account. Service block 610 provides for the ongoing servicing of an existing pension-based loan balance, including billing for minimum payments, payment receipt and posting, and default or collection processing. Finally, internal accounting reports 630 are produced at least monthly for the CLMS.

Detailed Description Text (38):
Referring now to FIG. 5A, a logic flowchart depicts the issuance of loan accounts.

An application for a credit card loan account is received at block 1105, and time/date stamped. In block 1100, the Social Security number on the application is keyed and verification is made that application is signed by the applicant. Block 1110 determines by reference to the plan master file database 1120 whether spousal consent forms are required. If so, the processor verifies the spousal consent form has been sent in, properly signed and properly notarized. The applications and any necessary spousal consent forms are scanned at block 1200 with character recognition software to convert the scanned image to machine readable data. The application includes but is not limited to vendor names and account numbers that the applicant wishes to electronically pay, credit card account numbers and balances to be paid down currently or in the future, and a selection of an associated credit card from options provided on the application. If the applicant has not selected a specific card, the application assigns the participant to a default card company specified in the application agreement that was signed. In addition, the application includes information stipulated by the associated credit card company required to process and authorize an unsecured line of credit. Key fields from the scanned and converted data from block 1200 are compared at block 1250 to the applicant's data in the CLMS. Note that a preferred embodiment does not preclude manually keying all data from the application or utilizing another method of inputting the application data into the CLMS system. If any key fields are missing, such as but not limited to, signature, spousal consent form existence, signature, and/or notarization as determined at block 1210, the application is put on hold at block 1500, with notification sent to the applicant. To the extent key fields such as, but not limited to Social Security number, name, and address do not match the database, personnel reviews the non-matching data and performs corrections at block 1275 to the extent errors relate to the character recognition and scanning process.

Detailed Description Text (42):
FIG. 5D illustrates the final phase of the loan issuance process, namely the loan activation and password sorting operation. The participant initiates the process from the Main Menu, block 1910. Three data fields are entered in a preferred embodiment, the liquidity account number, the card number, and the participant's mothers maiden name, blocks 1920 through 1940. The data input is matched to the data base records, block 1950, to verify that the participant has provided adequate identification prior to getting access to the password setting function. The participant sets the password at block 1960 and the password is stored at block 1965 in a secure database. The process now complete, returns to the Main Menu.

Detailed Description Text (55):
Next, a required annuity is determined for the participant at block 5020 over and above the estimated Social Security retirements benefits input via block 5025. Simplifying assumption(s) are used with respect to Social Security benefits payable to the participant where various assumptions are assumed such as, but not limited to, the participant is assumed to have worked the necessary quarters to earn full benefits. The participant is provided a form (not shown) to apply to the Social Security Administration to obtain a direct estimate from that body regarding benefits available. Upon receiving the returned estimate from the Social Security Administration, the participant may reenter the data and rerun the model. The additional annuity plus Social Security benefits should provide an average reasonable standard of retirement living as determined by retirement planning experts. The additional annuity is converted at block 5030 to a lump sum at the age of retirement using average costs provided by insurance companies to provide such annuity benefits. This is the amount that would be needed in the plan at retirement age to purchase an annuity that would adequately supplement Social Security to provide an adequate retirement standard of living. An estimate of available assets at retirement age is determined at block 5040 utilizing current plan assets, salary, contribution rate, expected return on investments, and expected salary increases. The same calculation is thus performed in block 5050, only this time subtracting the loan amount from plan assets. This takes a somewhat pessimistic

view that the loan amount is used for entirely disposable purposes without considering the possibility of another investment purpose (e.g. home purchase). However, altering the manner in which the loan is assumed to impact the estimated available assets at retirement age does not depart from the scope and spirit of the Retirement Security Index. Those skilled in the actuarial arts will be readily able to determine the above calculations.

Detailed Description Text (60):
A promissory note in the FACE amount of the loan is created and posted at block 3120 to the ST by the CLMS at the direction and authorization of the participant. The relevant accounting entries are made at block 3130 as follows:

Detailed Description Text (61):
A Pooling Certificate representing the promissory note obligation is also created in the ST at block 3130. The relevant accounting entries are recorded at block 3150 as follows:

Detailed Description Text (62):
The ST conveys the Pooling Certificate to the LF at block 3160 established under a common trust based on the instructions of the participant. A preferred embodiment would have the ST transfer the Pooling Certificate to a common trust which would pool elements of the securities and hold the pools of securities as an intermediary step on behalf of the plurality of ST's. Additionally, the LF receives detail from the ST regarding the Pooling Certificate purchased including, but not limited to, related promissory note number, account number, loan amount, origination fees and instructions regarding cash disbursements.

Detailed Description Text (71):
Referring now to FIG. 11A, the logic flowchart depicts the determination of variable minimum monthly payments and billing. The daily variable interest rate is obtained from published sources in accordance with the Promissory Note, block 7100. The daily variable rate is stored in a database, block 7110, and is the daily annual percentage rate ("APR") each participant has agreed to pay. At block 7120, it is determined if origination fees were charged, which may vary from account to account and over time. The spread or portion of the APR that was taken as origination fees is obtained at block 7130 from the loan origination database (originally determined and stored at block 2181, FIG. 7). The daily variable rate is reduced by the spread, if any, to determine the remaining variable rate to apply to the daily principal balances. The remaining rate is separated at block 7140 into the portion payable to the LF (i.e. CostRate) and the remaining portion payable to the CLMS. Each day's principal balance is multiplied by the variable rate(s) applicable that day, using a conventional 360 day/year calculation, with the total interest for all days in the billing period accumulated in LF.sub.-- Int and CLMS.sub.-- Int, blocks 7150 through 7180. Various LF's may compete using a combination of APR rates, origination fees, and other features to meet the participants requirements. As a result, on a given day a variety of different rates may apply to different participant loan balances.

Detailed Description Text (84):
Referring now to FIG. 13A, a logic flowchart depicts the determination of past due amounts and application of default processing or credit counseling. Past due dates are obtained at blocks 8110 and 8120 from the payment history database. The test to determine if default has occurred on any past due accounts depends heavily on calendar quarter ends. Block 8130 creates a variable for each calendar quarter end cutoff date. A temporary variable is set at block 8140 for the current quarter end, initially set at the value of the first quarter end. The value is compared to the date the program is being executed and adjusted until the current quarter end has been established correctly. The quarter to be tested at block 8160 will always be two quarters prior to the current quarter. All past due dates for amounts remaining unpaid are compared to the test quarter at block 8180 with any older dates causing

the account to be placed in default status. If the account is determined to be in default at block 8190, the limits database is checked to determine whether the pension plan requires the account to be placed on hold. Block 8230 starts a series of steps to determine the interest accrued to date for repurchasing the securitized promissory note. Interest rates are obtained from the interest rate database 8240. The applicable variable interest rates are obtained from the routine Servicing process (at block 7110, FIG. 12) which calculates at block 8230 the daily CostRate, for interest paid to the LF, and the Excess Interest Over CostRate, paid to the CLMS.

Detailed Description Text (85):
Referring now to FIG. 13B, a logic flowchart continues to depict the determination of past due amounts and application of default processing or credit counseling. The daily interest is calculated at block 8240 through an estimated liquidation date and accumulated in CostRate.sub.-- due and Excess.sub.-- due. An estimated date of Pooling Certificate liquidation is used based on expected receipt of cash by the ST from the Trustee, which may be 7 to 14 days beyond the date of performance of these calculations. The total principle due is added at block 8250 to the two interest due amounts to yield the Total.sub.-- due amount. The CLMS instructs the ST at block 8260 to sell plan assets, if cash is not already available in the plans separate account, other than the Promissory Note to generate cash equal to the Total.sub.-- due. The ST in turn provides the same instructions at block 8270 to the Trustee. The ST receives cash from the Trustee at block 8280 in the amount of Total.sub.-- due. The CLMS recalculates the amount due to LF at block 8290 through date of receipt of cash to yield Final.sub.-- due. The CLMS instructs the ST at block 8300 to transfer cash equal to Final.sub.-- due to LF to purchase Pooling certificate.

Detailed Description Text (87):
JE to eliminate Promissory Note after combining Pooling Certificate with note:

Detailed Description Text (91):
The pension-based liquidity processes of the present invention provide an efficient mechanism for increasing retirement security, for improving benefits for current retirement savers, and for enabling marginal and younger employees to begin saving earlier in their careers and in greater amounts. In addition, the liquidity system allows compensation programs to be restructured to allow a greater proportion of compensation to be placed into pension plans greatly mitigating the pending national crisis of unfunded or under funded retirements. Furthermore, the liquidity system of this invention has the following further advantages: (1) unsecured debt interest rates are reduced for many participants, thereby increasing disposable income and thus the capacity to save for retirement; (2) the reduced interest rates do not come at the expense of liquidated long term investments with hidden opportunity costs sharply increasing the real interest cost; (3) understandable retirement planning information is timely delivered to the individual to allow informed decisions to be made for both contributions and distributions; (4) individuals retirement plan to actuarial estimated goals are tracked and graphically depicted, thereby providing ongoing monitoring; (5) due to the liquidity systems portability features, pension-based loans after a job change will no longer become taxable distributions that severely damage retirement security; (6) common credit cards and related systems are harnessed to provide new synergy and efficiency for the retirement saver and retiree; and (7) trivial everyday consumption is buffered away from retirement assets onto traditional payment vehicles and is not secured against pension assets.

Detailed Description Text (95):
The Loan Fund could utilize a common trust to pool pooling certificates and segregate various elements of the pooling certificates (e.g., interest payments, scheduled principal repayments, and prepayments) into separate branches to be securitized. A pension plan could adopt the concepts of the present invention yet

elect not to securitize promissory notes, thereby eliminating the need for Loan Funds or the common trust. Likewise, existing loan programs may adopt the current system to access loan securitization without issuing CREDIT CARDS. Further, the Loan Fund could obtain other forms of financing other than securitization, such as lines of credit, and still fulfill the function designed into the Loan Fund.

Detailed Description Text (97):
Employers may elect not to optimize matching contribution rates due to other compensation strategies while still utilizing the other functionality of the pension-based liquidity system. Likewise, participants may elect not to increase contributions while still utilizing the other functionality of the pension-based liquidity system. Employers may elect to not allow portability of pension-based loans while still utilizing the other functionality of the pension-based liquidity system.

Detailed Description Text (98):
CARDS serving as the payment front-end of the liquidity system could be eliminated with payments and distributions serviced by other means, including but not limited to payroll withholdings and checks or direct deposit. Conversely, CARDS could be further integrated into the payroll system, receiving monthly payroll amounts directly to the CARD account. Monthly statements and activity statements may be provided by the CARD company or may be provided by the CLMS independently or on behalf of the CARD company and the pension-based loan administration activities.

Detailed Description Text (99):
It should be understood that any reference in this application to unsecured credit card account, CARD, card account, vendor, or vendor account refers to a payment account in the name of the participant that exists either inside or outside of a conventional pension plan. The payment account allows a participant to receive goods, services, or cash in exchange for an agreement, either written or verbal, to pay the merchant or a third party on certain terms and conditions. Therefore, a payment account may be, but is not limited to, a credit card, a prepaid card, a debit card, a vendor in-house credit card, a bank account, a credit union account, a utility companies account, a landlords account, a mortgage companies account, a digital cash account, an accounting area within a separate pension account, or an accounting area associated with a separate pension account. Similarly, any reference in this application to a loan account and/or a credit account is intended to include, but not limited to, a liquidity account, an accounting area within a separate pension account, an accounting area associated with a separate pension account, and a distribution account. Also, any reference to "security sold" in this application includes, but is not limited, to a security conveyed or a security provided as collateral. Further, while a preferred embodiment involves the creation of a promissory note backed security, alternative embodiments may involve the sale of the promissory note or the use of the promissory note as collateral. Also, a security "sold" or a promissory note "sold" is intended to include any conveyance or transfer of the security or promissory note to be securitized or otherwise financed. Recordkeeper, Plan Administrator, and TPA are used interchangeably in this application, and SECURITY and Pooling Certificates are also used interchangeably.

Detailed Description Text (102):
The liquidity system may eliminate the ability of vendors and/or banks from receiving distributions to simplify the number of authorized accounts set-up for distribution. Likewise, the liquidity system may use check payments when requested by the pension plan sponsor. The joint account application may be also separated into two separate applications, processed jointly or separately.

Detailed Description Text (103):
Origination fees may be eliminated with the remainder of the liquidity system operating without substantial effect other than interest costs would be potentially

increased as revenues would no longer as clearly match costs. Conversely, the origination fee module may be separated and attached to some other pension administration system.

Detailed Description Text (104):
The process to determine variable minimum payments may be eliminated, with the remainder of the liquidity system operating without substantial effect as long as it is replaced with a fixed interest and fixed monthly payment process. Conversely, the variable minimum payment process may be separated and attached to some other pension administration system.

Detailed Description Text (105):
The default credit counseling may be eliminated from the default process with the liquidity system continuing to provide the benefits described. Conversely, the default credit counseling process could be separated and attached to some other pension administration system or employer benefit plan.

Detailed Description Paragraph Table (1):
______________________________________ Promissory Note Face A/P to participant (Face) ______________________________________

Detailed Description Paragraph Table (2):
______________________________________ Pooling Certificate Face Promissory Note contra account (Face) ______________________________________

Detailed Description Paragraph Table (7):
______________________________________ Minimum payment receivable Min.sub.-- pay Promissory Note-principal (Min.sub.-- principal) Interest Payable-LF (CostRate Variable Interest) Interest Payable-CLMS (if any) (Excess Interest over CostRate-ST fee) Interest Expense Total interest-ST fee Interest Income (Total interest) ______________________________________

Detailed Description Paragraph Table (9):
______________________________________ JE where ST distributes cash ______________________________________ Promissory Note-principal Min.sub.-- Principal Interest Payable-LF LF.sub.-- int Interest Payable-CLMS CLMS.sub.-- int-ST fee Cash (Min.sub.-- pay-ST fee) ______________________________________

Detailed Description Paragraph Table (12):
______________________________________ Payable to participant Principal Promissory Note (Principal) ______________________________________

CLAIMS:

1. A method of improving the liquidity of a pension-based account for a pension participant within a pension plan, comprising:

separating the pension-based account for the pension participant into a plurality of pension-based accounts including a liquidity account;

transmitting data to the participant relating to the liquidity account;

monitoring the participant directions related to the pension-based account;

determining disbursement proceeds with a computer means resulting from the liquidity account in response to a participant direction; and

crediting the disbursement proceeds to a payment account with the computer means.

2. The method of claim 1, further comprising:

debiting the payment account or another payment account to credit the liquidity account in response to a participant direction to service the disbursement proceeds.

3. The method of claim 2, wherein debiting the payment account to credit the liquidity account further comprises:

repaying the disbursement proceeds from a payment account used by the pension participant with a loan repayment directed by the participant made in contribution with other payments owed by the participant on the payment account.

5. The method of claim 1, further comprising:

determining disbursement proceeds includes determining proceeds for a plurality of pension-based loans; and

aggregating a minimum repayment for various pension-based loans to determine a minimum loan repayment to the liquidity account.

8. The method of claim 1, further comprising:

originating a plurality of disbursement proceeds each resulting from the liquidity account.

10. The method of claim 1, further comprising:

modeling an effect of a taxable distribution on the pension-based account to provide financial counseling to the pension participant of a liquidity account in delinquency.

11. A method of securitizing a loan with a pension-based account of: a pension participant within a pension plan, comprising:

separating the pension-based account for the pension participant into a plurality of pension-based accounts including a liquidity account;

creating a promissory note from the participant and transferring the promissory note as an asset to the liquidity account;

receiving a participant direction to convey a security representing rights of the promissory note;

conveying the security to a purchaser;

determining disbursement proceeds based on the promissory note with a computer means; disbursing the disbursement proceeds;

repaying the disbursed proceeds without liquidating investments within the pension-based account; and

crediting the repaid disbursed proceeds to the pension-based account with the computer means.

12. The method of claim 11, further comprising:

aggregating a plurality of securities each representing rights of a respective promissory note; and

conveying the aggregated plurality of securities to a loan fund.

13. The method of claim 11, further comprising:

receiving a loan application for supporting a plurality of loans from the liquidity account.

14. The method of claim 11, further comprising:

disbursing the disbursement proceeds includes distributing proceeds for a plurality of pension-based loans; and

aggregating a minimum repayment for various pension-based loans to determine a minimum loan repayment to the liquidity account.

18. The method of claim 11, further comprising:

originating a plurality of disbursement proceeds from the liquidity account.

26. A system for the management of pension liquidity for a plurality of pension accounts each held by a respective pension participant within a pension plan, comprising:

computer means electronically storing signals indicative of a liquidity account within a respective one of the plurality of pension accounts;

display means displaying data to the pension participant of a respective one of the plurality of pension accounts,:

data input means electronically transmitting and executing a participant directed transaction relating to the respective pension account; and

said computer means determining disbursement proceeds resulting from the respective liquidity account and crediting the disbursement proceeds to a payment account while monitoring the participant directed transaction.

27. The system as defined in claim 26, further comprising:

said computer means debiting the payment account or another payment account to credit the liquidity account in response to a participant direction to service the disbursement proceeds.

29. The system as defined claim 26, wherein said computer means aggregates a minimum repayment for various pension-based loans to determine a minimum loan repayment to the liquidity account.

30. A system for securitizing a loan with a pension-based account of a respective pension participant within a pension plan, comprising:

computer means electronically storing a plurality of signals indicative of a liquidity account within a respective one of the plurality of pension accounts;

data input means electronically executing a participant directed transaction relatingto a respective pension-based account;

a promissory note created by the participant in response to the data input means and held as an asset by the liquidity account;

conveying means electronically conveying a security representing rights in the promissory note and obtaining loan disbursement proceeds;

loan servicing means servicing the conveyed security to repay the disbursed proceeds without liquidating investments within the pension-based account; and

the computer means crediting the repaid disbursement proceeds to the pension-based account.

32. The system of claim 30, wherein:

the computer means aggregates a plurality of securities each representing rights of a respective promissory note; and

the conveying means electronically conveys the aggregated plurality of securities to a loan fund.

34. The system of claim 30, further comprising:

a payment account associated with a respective liquidity account; and

the loan servicing means repays the loan disbursement proceeds from the payment account.

35. A system for the management of a pension-based account including a liquidity account held by a respective pension participant within a pension plan, comprising:

a retirement planning means outputting to each pension participant a trackable retirement security index related to an adequate retirement amount for the participant and an expected pension-based asset amount at retirement based on currently held retirement amount values;

a retirement security monitoring means monitoring an impact of an anticipated transaction on the retirement security index; and

a retirement security optimization means outputting to each participant a plurality of recommended pension account contribution rates determined by computer means, whereby the participant has information to monitor and control retirement security.

37. The system of claim 35, further comprising:

retirement security detection means detecting a liquidity account of a participant with a high retirement security risk.

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L4: Entry 41 of 50 File: USPT Nov 7, 2000

US-PAT-NO: 6144947
DOCUMENT-IDENTIFIER: US 6144947 A
**** See image for Certificate of Correction ****

TITLE: System for automatically determining net capital deductions for securities held, and process for implementing same

DATE-ISSUED: November 7, 2000

INVENTOR-INFORMATION:

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APPL-NO: 09/092114 [PALM]
DATE FILED: June 5, 1998

INT-CL-ISSUED: [07] G06 F 17/60

US-CL-ISSUED: 705/37; 705/35, 705/36
US-CL-CURRENT: 705/36R; 705/35

FIELD-OF-CLASSIFICATION-SEARCH: 705/37, 705/36, 705/35, 705/30, 235/379
See application file for complete search history.

PRIOR-ART-DISCLOSED:

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Search Selected Search ALL Clear

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☐	5940809	August 1999	Musmanno et al.	705/35
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ART-UNIT: 271

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ABSTRACT:

A computer system is provided for automatically calculating broker-dealer disclosure data requirements for a publicly traded security that the broker-dealer holds. The computer system includes a MODEM in electrical/electronic communication with a source of encoded publicly traded security market data and a digital computer comprising a first I/O port for electronic communication with broker-dealer data processing apparatus, a second I/O port for electronic connection to the MODEM for processing the encoded data, and a memory device within which is stored a set of computer instructions defining computer system operation. The digital computer communicates with the broker-dealer apparatus to identify a broker-dealer position in the publicly traded security and processes MODEM-received data relating thereto to calculate a haircut coefficient for adjusting the position to comply with Rule 15-c 3-1 of the Securities Exchange Act, as amended.

9 Claims, 1 Drawing figures

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L4: Entry 41 of 50 File: USPT Nov 7, 2000

DOCUMENT-IDENTIFIER: US 6144947 A
**** See image for Certificate of Correction ****
TITLE: System for automatically determining net capital deductions for securities held, and process for implementing same

Brief Summary Text (6):
"Haircut" is an industry term for a calculated coefficient (a decimal value less than one) which is used to adjust or scale down the security's reportable liquid capital value. The "haircut" value (i.e., liquid capital) may then be utilized to calculate the broker-dealer's net capital requirements and if it in compliance therewith. For that matter, compliance with Rule 15-c 3-1 (the Net Capital Rule) typically requires daily computation of haircut amounts, if any, to the securities held by the broker-dealer to calculate the net market value for each security and therefore, the broker-dealer's position daily. The haircut or calculation for each security held is based on riskiness and liquidity of each category of security held by the broker-dealer. The broker-dealer must always operate in consequence of the calculated net market value of the securities it holds, that is, it must keep a minimum net capital depending on the aggregate value of its securities.

Brief Summary Text (7):
Net capital deductions (that is, haircuts) reduce the broker-dealer's net capital value, a great concern for the SEC. Hence, a device or apparatus capable of automatically calculating a "haircut" for each security held and calculating the adjustment to the broker-dealer's net capital in order to comply with the Net Capital Rule. The automatic calculation may be carried out real time if the apparatus is electronically connected to a source of real-time stock market or securities information.

Brief Summary Text (8):
For that matter, various apparatus and methods are known for encoding stock market data and transmitting same for private or public access. One example is embodied in U.S. Pat. No. 5,045,848 to Fascenda, which discloses a method of encoding and transmitting market data in a cyclical repetitive loop, with real-time data inserted in the loop data during business hours of the New York Stock markets. And U.S. Pat. No. 4,815,030 to Cross et al. discloses a multitask, multi-user system to enable efficient transfer of data from a remote data base (a stock market data base) to individual subscribers for distribution of same stock market data. For that matter most broker-dealers today have stock market data available to them electronically in real-time.

Brief Summary Text (11):
It is another object of the invention to provide apparatus for automatically calculating a haircut value for a security based on real-time stock market data, and process for carrying out same.

Brief Summary Text (12):
It is another object of this invention provide apparatus which values a dealer's net holdings and generates a minimum net capital requirement for the broker-dealer upon receipt of real-time stock market data.

Brief Summary Text (15):
The present invention calculates reports automatically in accordance with changes which occur and are received into the system from the source of public data referred to above. For example, if the market makers for an equity security no longer exist, a greater haircut may be required and the net value of the current number of the particular security held by the broker-dealer must be reflect the haircut and comply with Rule 15-c 3-1. The set of computer instructions define a computing method for executing the steps necessary to perform the automatic calculations, and automatically determine, preferably in real time, if the broker-dealers assets render the broker-dealer in or out of compliance with Rule 15-C 3-1.

Brief Summary Text (16):
In one form, a process of this invention may be carried out in real time by which broker-dealers utilizing same may respond to changes in reporting data on one or more publicly traded security held by the broker-dealer. The process includes a number of particular steps, the first of which requires that the broker-dealer electronically communicate with a fixed source of real-time publicly traded security industry data. The step of electronically communicating includes receiving the publicly traded security data in its form as an electronic signal and processes the signal to extract and generate a useable form of the data.

Brief Summary Text (17):
The process also includes accessing a database contains data relating to the broker-dealer's holdings in publicly traded securities, to determine which received security data is relevant to the broker-dealer's compliance with rule 15-C 3-1. Finally, the system calculates a required haircut amount in response to a change in the number of market makers for a security, or other pertinent public information about the security. The step also includes calculating a new net worth amount per share of security held, and determining if the current dealer reporting amounts are still in compliance with the SEC rules in view of the changes in real-time data.

Detailed Description Text (2):
With the US stock markets now considered greatly overvalued, and with trading at an all time high, it is more important than ever to produce accurate financial records. That is, financial records need to be generated without material error. Material error is that error, known in the art, which would/could mislead an investor or creditor, according to generally accepted accounting principles. Though the conventional hand method of calculating a firm's aggregate holding or security position, which is based on a "haircut" calculation required for each security (to be defined in greater detail herein), and of course the individual calculations themselves, monthly, is satisfactory to ensure that the broker-dealer's reporting complies with rule 15-c 3-1. That is, by-hand evaluations have sufficed for all audit compliance purposes. However, the present markets are thick with investor's pensions, and much credit is being granted on inflated stock values. Hence, a more accurate accounting method for assuring broker-dealer compliance with Rule 15-C 3-1 will be welcomed in the industry.

Detailed Description Text (3):
In the case of equity securities listed on a national securities exchange such as the New York Stock Exchange, or the American Stock Exchange or the National Association of Securities Dealers stocks, which have three (3) or more market makers for a security, excluding the computing broker-dealer, each of whom quote a bid or an ask price, the security qualifies for a 15% haircut. If there were only one or two market makers excluding the computing broker dealer, the security would require a 40% haircut. If the security did not meet these minimum market maker, Rule 15-c 3-1 requires that the value of the security relative the dealer's position receive a 100% haircut on the "long" side and 40% haircut on the "short" side. For foreign securities, any Security listed on the Standard and Poors Financial Times World Indices list requires a 15% haircut.

Detailed Description Text (5):
In a preferred form, and as shown in FIG. 1, the system of the present invention comprises a microcomputer-based SEC-compliance accounting system 100 for automatically calculating net capital deductions (or haircuts) to a security value identified and associated with a broker-dealer's portfolio. The haircuts adjust a cash or net value for publicly traded securities held by the broker-dealer in response to real-time changes in market data relating to same securities. The actual haircut amount or deduction from the value of the holding assures that broker-dealers trading in same securities maintain daily compliance with the reporting requirements of Rule 15-C 3-1 of the Securities and Exchange Act of 1933 (SEC).

Detailed Description Text (12):
b) Standard & Poors Financial Times World Indices (for foreign securities);

Detailed Description Text (13):
c) United States Treasury Bills, Notes & Bonds: maturity date;

Detailed Description Text (14):
d) Municipal Bonds: Maturity Date

Detailed Description Text (17):
g) Commercial Paper, Bankers Acceptances, and Certificates of Deposit: Type of rating by at least two of the Nationally Statistic Organizations, the bank guarantee, and Maturity Date.

Detailed Description Text (18):
h) Non-convertible debt securities: Type of rating by at least two nationally statistic ratings organizations and maturity date.

Detailed Description Text (19):
i) Convertible Debt Securities: Ratio of Market Value to Par Amount, rating by at least two nationally recognized ratings organizations and maturity date.

Detailed Description Text (21):
For that matter, Rule 15-c 3-1 states that any short term promissory note of evidence of indebtedness which has a fixed rate of interest or is soft at a discount, and which has a maturity date at date of issuance not exceeding nine months, exclusive of days of grace, or any renewal thereof, the maturity is likewise limited and is rated in one of the three highest categories by at least one of the nationally recognized statistical ratings organizations. In the case of negotiable certificates of deposit or bankers acceptance of similar type as that defined in section 3(a)(6) of the Securities Act of 1934, the applicable percentage of market value of the greater of the long or short position in each of the categories specified below.

Detailed Description Text (22):
Rule 15-c 3-1 states that in the case of non-convertible debt securities having a fixed interest rate and a fixed maturity date and which are not traded flat or in default as to principal 0 interest and which are rated in of the four highest rating categories by at least two of the nationally recognized statistical rating organizations, the applicable percentages of the market value of the greater of the long or short position in each of the categories specified below are

Detailed Description Text (24):
Rule 15-c 3-1 states that in the case of a debt security not in default which has a fixed rate of interest and a fixed maturity date and which is convertible into an equity security, the deductions shall be as follows: If the market value is 100 percent or more of the principal amount the deduction shall be 15% the greater of

the long or short positions . . . and if the market value is less than the principal amount, the deduction shall be determined by paragraph (F) of this section (or the same criteria for non-convertible debt securities). Rule 15-c 3-1 further states that "[i]n the case of cumulative, non-convertible preferred stock ranking prior to all other classes of stock of the same issuer, which is rated in one of the four highest categories by at least two of the nationally statistical organizations and which are not in arrears as to dividends, the deduction shall be 10% of the market value of the greater of long or short position.

Detailed Description Text (25):
The schedule below posts haircut percentages based upon maturity date for United States Treasury Securities and for Canadian Government Securities. The information specialist Automatic Data Processing (ADP), an information service provider operating principally in the State of New Jersey, has a security information system known as MSDI which gives maturity dates on such securities, as well as for all bonds, electronically.

Detailed Description Text (30):
The steps which must be implemented include electronically receiving a fixed source of electronic data which includes encoded stock market data in real-time in a form a an electronic signal. The electronic signal, and the market data inherent therein, are processed by the system microprocessor in a comparison with broker-dealer data accessible to the microprocessor by the system. That is, the real time market data is compared to existing memory-stored broker-dealer data. The stored broker-dealer data is updated by the system each time the process is carried out. That is, a marked-to-market value for the security held by the broker-dealer is calculated and compared to the memory stored marked-to-market value present in the system's accessible memory locations. If the newly calculated marked-to-market value is less than the stored value, the dealer must report same to comply with Rule 15-C 3-1. Of course a printer may be included with the hardware defining the system so that a physical report may be generated.

CLAIMS:

3. A real-time method for automatically calculating a disclosure value for a position in a security held by an SEC-regulated broker-dealer through the use of a digital computer which is in communication with (1) a source of real-time encoded securities industry data and (2) a source of relevant broker-dealer data, the computer including ROM encoded with a set of executable instructions, the method comprising the steps of:

electronically receiving and processing said real-time data;

electronically identifying changes in said real-time data by comparing same to a stored set of the data;

electronically processing broker-dealer real-time data to generate a haircut coefficient for adjusting the position in said security;

adjusting said position based on said haircut coefficient calculated to comply with current SEC rules for regulating said broker-dealer data and

communicating data representing said adjusted position.

5. A digital computer constructed to automatically calculate a haircut coefficient for adjusting a disclosure value for a publicly traded security to comply with current SEC rules for regulating said broker-dealer data; the computer comprising:

a first I/O port in electronic communication with a computer memory device within which is stored digital data defining a broker's position in said publicly traded

security;

a MODEM in electronic communication with a source of real-time stock market data;

a microprocessor in communication with the MODEM and first I/O port;

a read-only memory device electronically connected to the microprocessor within which is stored a set of computer instructions which calculates said haircut based on said current SEC rules and adjusts said disclosure value based thereon; and

a second I/O port for communicating said disclosure data.

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